§ 2160d. Further restrictions on exports

(a) In general

Except as provided in subsection (b) of this section, the Commission may issue a license for the export of highly enriched uranium to be used as a fuel or target in a nuclear research or test reactor only if, in addition to any other requirement of this chapter, the Commission determines that—

(1) there is no alternative nuclear reactor fuel or target enriched in the isotope 235 to a lesser percent than the proposed export, that can be used in that reactor;

(2) the proposed recipient of that uranium has provided assurances that, whenever an alternative nuclear reactor fuel or target can be used in that reactor, it will use that alternative in lieu of highly enriched uranium; and

(3) the United States Government is actively developing an alternative nuclear reactor fuel or target that can be used in that reactor.

(b) Medical isotope production

(1) Definitions

In this subsection:

(A) Highly enriched uranium

The term “highly enriched uranium” means uranium enriched to include concentration of U–235 above 20 percent.

(B) Medical isotope

The term “medical isotope” includes Molybdenum 99, Iodine 131, Xenon 133, and other radioactive materials used to produce a radiopharmaceutical for diagnostic, therapeutic procedures or for research and development.

(C) Radiopharmaceutical

The term “radiopharmaceutical” means a radioactive isotope that—

(i) contains byproduct material combined with chemical or biological material; and

(ii) is designed to accumulate temporarily in a part of the body for therapeutic purposes or for enabling the production of a useful image for use in a diagnosis of a medical condition.

(D) Recipient country

The term “recipient country” means Canada, Belgium, France, Germany, and the Netherlands.

(2) Licenses

The Commission may issue a license authorizing the export (including shipment to and use at intermediate and ultimate consignees specified in the license) to a recipient country of highly enriched uranium for medical isotope production if, in addition to any other requirements of this chapter (except subsection (a) of this section), the Commission determines that—

(A) a recipient country that supplies an assurance letter to the United States Government in connection with the consideration by the Commission of the export license application has informed the United States Government that any intermediate consignees and the ultimate consignee specified in the application are required to use the highly enriched uranium solely to produce medical isotopes; and

(B) the highly enriched uranium for medical isotope production will be irradiated only in a reactor in a recipient country that—
(i) uses an alternative nuclear reactor fuel; or
(ii) is the subject of an agreement with the United States Government to convert to an alternative nuclear reactor fuel when alternative nuclear reactor fuel can be used in the reactor.

(3) Review of physical protection requirements

(A) In general

The Commission shall review the adequacy of physical protection requirements that, as of the date of an application under paragraph (2), are applicable to the transportation and storage of highly enriched uranium for medical isotope production or control of residual material after irradiation and extraction of medical isotopes.

(B) Imposition of additional requirements

If the Commission determines that additional physical protection requirements are necessary (including a limit on the quantity of highly enriched uranium that may be contained in a single shipment), the Commission shall impose such requirements as license conditions or through other appropriate means.

(4) First report to Congress

(A) NAS study

The Secretary shall enter into an arrangement with the National Academy of Sciences to conduct a study to determine—

(i) the feasibility of procuring supplies of medical isotopes from commercial sources that do not use highly enriched uranium;
(ii) the current and projected demand and availability of medical isotopes in regular current domestic use;
(iii) the progress that is being made by the Department of Energy and others to eliminate all use of highly enriched uranium in reactor fuel, reactor targets, and medical isotope production facilities; and
(iv) the potential cost differential in medical isotope production in the reactors and target processing facilities if the products were derived from production systems that do not involve fuels and targets with highly enriched uranium.

(B) Feasibility

For the purpose of this subsection, the use of low enriched uranium to produce medical isotopes shall be determined to be feasible if—

(i) low enriched uranium targets have been developed and demonstrated for use in the reactors and target processing facilities that produce significant quantities of medical isotopes to serve United States needs for such isotopes;
(ii) sufficient quantities of medical isotopes are available from low enriched uranium targets and fuel to meet United States domestic needs; and
(iii) the average anticipated total cost increase from production of medical isotopes in such facilities without use of highly enriched uranium is less than 10 percent.

(C) Report by the Secretary

Not later than 5 years after August 8, 2005, the Secretary shall submit to Congress a report that—

(i) contains the findings of the National Academy of Sciences made in the study under subparagraph (A); and
(ii) discloses the existence of any commitments from commercial producers to provide domestic requirements for medical isotopes without use of highly enriched uranium.
consistent with the feasibility criteria described in subparagraph (B) not later than the date that is 4 years after the date of submission of the report.

(5) Second report to Congress

If the study of the National Academy of Sciences determines under paragraph (4)(A)(i) that the procurement of supplies of medical isotopes from commercial sources that do not use highly enriched uranium is feasible, but the Secretary is unable to report the existence of commitments under paragraph (4)(C)(ii), not later than the date that is 6 years after August 8, 2005, the Secretary shall submit to Congress a report that describes options for developing domestic supplies of medical isotopes in quantities that are adequate to meet domestic demand without the use of highly enriched uranium consistent with the cost increase described in paragraph (4)(B)(iii).

(6) Certification

At such time as commercial facilities that do not use highly enriched uranium are capable of meeting domestic requirements for medical isotopes, within the cost increase described in paragraph (4)(B)(iii) and without impairing the reliable supply of medical isotopes for domestic utilization, the Secretary shall submit to Congress a certification to that effect.

(7) Sunset provision

After the Secretary submits a certification under paragraph (6), the Commission shall, by rule, terminate its review of export license applications under this subsection.

(c) Definitions

As used in this section—

(1) the term “alternative nuclear reactor fuel or target” means a nuclear reactor fuel or target which is enriched to less than 20 percent in the isotope U–235;

(2) the term “highly enriched uranium” means uranium enriched to 20 percent or more in the isotope U–235; and

(3) a fuel or target “can be used” in a nuclear research or test reactor if—

(A) the fuel or target has been qualified by the Reduced Enrichment Research and Test Reactor Program of the Department of Energy, and

(B) use of the fuel or target will permit the large majority of ongoing and planned experiments and isotope production to be conducted in the reactor without a large percentage increase in the total cost of operating the reactor.


Amendments

2005—Subsec. (a), Pub. L. 109–58, § 630(1), inserted heading and substituted “Except as provided in subsection (b) of this section, the Commission” for “The Commission” in introductory provisions.

Subsecs. (b), (c). Pub. L. 109–58, § 630(2), (3), added subsec. (b) and redesignated former subsec. (b) as (c).